

Glossary



adaptive management: the process of adjusting management actions and/or directions as new and better information emerges about an ecosystem.

alluvium: clay, silt, sand, gravel, or similar detrital material deposited by flowing water

anadromous: refers to fish **species** that spend most of their lives in the ocean but **migrate** to freshwater rivers and streams to spawn.

animal unit month (AUM): the amount of forage needed by an “animal unit” (AU) grazing for one month. The animal unit in turn is defined as one mature 1,000-pound cow and calf, one horse, five sheep, or one steer.

anthropogenic: resulting from the influence of humans on nature.

aquatic: growing, living in, or frequenting water, usually open water; compare with **wetland**.

aquifer: an underground reservoir of water.

AUM: See animal unit month.

benthic: living on or near the bottom of a body of water.

bioaccumulation: The uptake and concentration of chemicals by living systems.

biodiversity: the full array of living things.

biological diversity: the variety of life over some spatial unit, used to describe all aspects of the broadly diverse forms into which organisms have evolved, especially including species richness, ecosystem complexity, and genetic variation.

biomes: areas on the earth with similar climate, plants, and animals, classified according to the predominant vegetation and characterized by adaptations of organisms to that particular environment.

bioregion: an area that includes a rational ecological community with characteristic physical (climate, geology), biological (vegetation, animal), and environmental conditions.

BLM: Bureau of Land Management.

browse: 1. tender shoots, twigs, and leaves of trees and shrubs and grass that are available and acceptable to grazing animals (see also **forage**);
2. to feed on browse, graze.

California Legacy Project: an initiative that involves a broad range of government agencies and citizen organizations working together to develop a suite of tools and maps to help Californians make important decisions about conserving and protecting the state's working lands and natural resources.

California Wildlife Habitat Relationships System (CWHR): an information system and predictive model for California's wildlife containing range maps and habitat relationship information on all of the state's regularly occurring amphibians, reptiles, birds, and mammals.

canopy: the cover provided by a layer of vegetation, such as **overstory** trees in a forest.

cavity nesting: a type of bird species that nests in holes (cavities) in trees. They are divided into two groups. Primary cavity nesters excavate their own holes in trees and snags, while secondary cavity nesters are dependent upon natural cavities or abandoned sites excavated by primary cavity nesters.

clearcutting: a **silvicultural** method in which all trees in a designated area are removed in one operation.

commensal: having benefit for one member of a two-species association but neither positive nor negative effect on the other.

competition: occurs when two or more organisms have the potential for using the same resource. Competition may be between individuals of the same **species** or between two or more different species.

conifer: trees belonging to the order *Gymnospermae*, comprising a wide range of trees that are mostly evergreens. Conifers bear cones and have needle-shaped or scalelike leaves. In the wood products industry, the term "softwoods" refers to conifers.

conservation: the use of natural resources in ways such that they may remain **viable** for future generations. Compare with **preservation**.

conservation bank: privately or publicly owned land that is permanently protected and managed for its natural resource values. A conservation bank operator may sell habitat credits to developers who need to satisfy legal requirements for mitigating environmental impacts of development projects. Conservation banks must be approved by such wildlife agencies as the Department of Fish and Game and the U.S. Fish and Wildlife Service.

distribution: the pattern of occurrences for a **species** or **habitat** throughout the state; generally more precise than range.

disturbance regime: the characteristic pattern of natural- or human-caused events that disrupts the current physical and biological conditions of an area, such as floods, fires, storms, and human activity.

down logs: trees, limbs, or trunks that have fallen and are at least 10 feet long and at least 10 inches in diameter as measured on the large end.

ecological integrity: the degree to which the components (types of species, soil, etc.), structures (arrangement of components), and processes (flows of energy and nutrients) of an ecosystem or natural community are present and functioning intact. Lands with high ecological integrity generally have not been subjected to significant human influences or disruption of natural processes, such as fire, floods, or nutrient and hydrological cycling.

Ecological Reserve: designation given to certain lands owned or managed by the Department of Fish and Game as a way of regulating appropriate use. This designation is usually reserved for land with special status plants, animals, or vegetation types. Compare with **Wildlife Area**.

ecosystem: a natural unit defined by both its living and non-living components; a balanced system for the exchange of nutrients and energy. Compare with **habitat**.

ecosystem function: the operational role of ecosystem components, structure, and processes.

ecosystem health: the degree to which a biological community and its nonliving environmental surroundings function within a normal range of variability; the capacity to maintain ecosystems structures, functions, and capabilities to provide for human need.

ecosystem processes: the flow or cycling of energy, materials, and nutrients through space and time.

ecosystem services: the beneficial outcomes for the natural environment or for people that result from ecosystem functions. Some examples of ecosystem services are support of the food chain, harvesting of animals or plants, clean water, or scenic views. In order for an ecosystem to provide services to humans, some interaction with, or at least some appreciation by, humans is required.

ecosystem structure: spatial distribution or pattern of ecosystem components.

endangered species: any species, including subspecies or qualifying distinct population segment, which is in danger of extinction throughout all or a significant portion of its range.

endemic: found only in a specified geographic region.

endemism: used here as a measure of distribution for those **taxa** that are found only in one specific area, such as one region or the state itself. A region of high endemism has many taxa restricted to it.

estuary: an area in which salt water from the ocean mixes with flowing fresh water, usually at the wide mouth of a river.

evolutionarily significant unit (ESU): refers to a genetically distinct population segment of a species. An ESU is protected under the federal Endangered Species Act, which defines species to include “any subspecies of fish or wildlife or plants, and any distinct population segment of any species of vertebrate fish or wildlife, which interbreeds when mature.”

exotic species: a species of plant or animal introduced from another country or geographic region outside its natural range; non-native.

extinct: refers to a plant or animal or vegetation type that no longer exists anywhere.

extirpated: refers to a plant or animal or vegetation type that has been locally eliminated but is not **extinct**.

fauna: refers to all of the animal **taxa** in a given area.

fen: low land covered wholly or partly with water.

fire frequency: a broad measure of the rate of fire occurrence in a particular area.

fire regime: a measure of the general pattern of fire frequency and severity typical to a particular area or type of landscape.

flagship species: popular species that appeal to the general public and have interesting or notable features that make them suitable for communicating conservation concerns.

flora: refers to all of the plant taxa in a given area.

fluvial: pertaining to rivers.

forage: browse and herbage that is available and acceptable to grazing animals (see also **browse**).

forb: a broad-leaved herb, such as clover, as distinguished from a grass or a woody plant.

forest health: capacity of a forest for renewal, for recovery from a wide range of disturbances, and for retention of ecological function, while meeting the current and future needs of people for desired levels of values, uses, products, and services.

forest structure: the horizontal and vertical distribution of components of a forest stand, including height, diameter, crown layers, and stems of trees, shrubs, herbaceous understory, and down woods' debris.

fragmentation: the process by which a contiguous land cover, vegetative community, or habitat is broken into smaller patches within a mosaic of other forms of land use/land cover; e.g., islands of an older forest age class immersed within areas of younger-aged forest, or patches of oak woodlands surrounded by housing development.

FRAP: Fire and Resource Assessment Program.

FSC: Fire Safe Council.

FWS: U.S. Fish and Wildlife Service.

GAP: Gap Analysis Program. It identifies gaps between land areas that are rich in biodiversity and areas that are managed for conservation.

genus: the level of biological classification above **species**. Closely related species belong to the same genus.

geographic information system (GIS): an organized assembly of people, data, techniques, computers, and programs for acquiring, analyzing, storing, retrieving, and displaying spatial information about the real world.

GIS: See Geographic Information System.

grazing permit: land lease offering written permission to graze a specific number, kind, and class of livestock for a specified defined allotment.

habitat: where a given plant or animal species meets its requirements for food, cover, and water in both space and time; may or may not coincide with a single vegetation type. Compare with **ecosystem**.

habitat quality: the capacity of a habitat to support a species.

HCP: Habitat Conservation Plan.

herbaceous: having characteristics of an herb; i.e., a nonwoody stem such as forbs, grasses, and ferns, or the nonwoody tissues of a branch or stem.

hybridization: refers here to the crossbreeding of two animals or plants of different species or subspecies.

impaired: condition of the quality of an ecosystem or habitat that has been adversely affected for a specific use by contamination or pollution.

Inland Empire: Riverside and San Bernardino Counties in Southern California.

introduced: refers to any **species** intentionally or accidentally transported and released into an environment outside its **native** range.

invasive: an **introduced species** which spreads rapidly once established and has the potential to cause environmental or economic harm. Not all introduced species are invasive.

invertebrate: an animal without an internal skeleton. Examples are insects, spiders, clams, shrimp, and snails.

keystone species: A species whose loss from an ecosystem would cause a greater than average change in other species populations or ecosystem processes and whose continued well-being is vital for the functioning of a whole community.

land cover: predominant vegetation life forms, natural features, or land uses of an area.

landscape: The traits, patterns, and structure of a specific geographic area, including its biological composition, its physical environment, and its anthropogenic or social patterns. An area where interacting ecosystems are grouped and repeated in similar form.

late succession forest: stands of dominant and predominant trees with open, moderate, or dense canopy, often with multiple canopies, and at least 20 acres in size. Characteristics include large decadent trees, snags, and large down logs.

late successional: the latter developmental stages of a plant community where vegetation structures are in a stable state and slow to change, reflective of increased age.

listed: general term used for a taxon protected under the federal Endangered Species Act, the California Endangered Species Act, or the California Native Plant Protection Act.

mesic: neither wet (hydric) nor dry (xeric); intermediate in moisture, without extremes.

metapopulation: A group of populations, usually of the same species, that exist at the same time but in different places.

migrate; migratory: referring to animals that travel seasonally. Migrations may be local or over long distances.

monitoring: collecting and analyzing observations of a species, habitat, or vegetation type over time. Monitoring also includes collecting data on other ecosystem components such as water and soil.

morphology: The form and structure of organisms.

native: naturally occurring in a specified geographic region.

natural community: general term often used synonymously with **habitat** or vegetation type.

NatureServe: a non-profit conservation organization that hosts a network of natural heritage programs providing information about rare and endangered species and threatened ecosystems.

non-native species: *See* **exotic species**.

nonpoint: pollution whose source cannot be ascertained, including runoff from storm water and agricultural, range, and forestry operations, as well as dust and air pollution that contaminate waterbodies.

OHV: off-highway vehicles.

old growth forest: a stand or stands of forest trees that exhibit large tree sizes, relatively old age, and decay characteristics common with over-mature trees.

overdraft: The pumping of water from a groundwater basin or aquifer in excess of the supply flowing into the basin; results in a depletion or “mining” of the groundwater in the basin.

overstory: The uppermost canopy (treetops) in a stand of trees.

Pacific Flyway: the westernmost migratory bird flyway in North America, which begins in Alaska and runs south through California. It consists of several parallel routes linked together by several branches and follows the coast of North America and the valleys of the major mountain ranges.

pelagic: Living on the open ocean rather than coastal or inland bodies of water.

piscivore: an animal whose primary food source is fish.

plant alliance: a level of classification for vegetation types generally based upon the dominant plant species in the uppermost or dominant layer of vegetation.

plant association: a level of classification for vegetation types below **plant alliance** and defined by the most characteristic species associated with a plant alliance. Many plant associations may be nested within a single plant alliance, just like many species may be nested within a single **genus**.

population: the number of individuals of a particular **taxon** in a defined area.

predation: the act of killing and eating other animals.

prescribed fire: a deliberate burn of wildland fuels in either their natural or modified setting and under specific environmental conditions that allow the fire to be confined to a predetermined area and intensity to attain a planned resource management objective.

preservation: generally, the nonuse of natural resources. Compare with **conservation**.

private: lands not publicly owned, including private conservancy lands.

public: lands owned by local, state, or federal government or special districts.

range: defined here as the maximum geographic extent of a **taxon** or **habitat**; does not imply that suitable conditions exist throughout the defined limits. Compare with **distribution**.

rangelands: any expanse of land not fertilized, cultivated, or irrigated that is suitable and predominately used for grazing domestic livestock and wildlife.

rare: one of several **special status** listing designations in state law; it applies only to plants. Under California law, a plant is rare when, although it is not in immediate danger of **extinction**, it occurs in such low numbers that it may become **endangered** if its environment worsens. The word rare is also commonly applied to non-listed plants and animals whose populations are low in number and therefore at risk.

rarity: used here as a measure of sensitivity for those **taxa** that have special status due to very limited **distribution**, low population levels, or immediate threat. An area high in rarity has many taxa that meet this definition.

recruitment: the influx of new members into a population by reproduction or immigration.

redd: nesting site for salmonids and other fish.

refugia: areas where species can take refuge during times of climatic upheaval or biological stress. Places of past refugium are sometimes areas that still harbor high biological diversity.

regime: A regular pattern of occurrence or action.

resident: refers to animal **taxa** that remain in a given location throughout the year.

richness: used here as a measure of diversity; the total number of plant **taxa**, animal species, or vegetation types in a given area.

riparian: of or relating to rivers or streams.

riprap: gabions, stones, blocks of concrete, or other protective covering material of like nature deposited upon river and stream beds and banks, lake, tidal, or other shores to prevent erosion and scour by water flow, wave, or other movement.

salmonids: collective term for a family of fish that includes salmon and trout.

sensitive species: Those plant and animal species for which population viability is a concern.

silviculture: generally, the science and art of cultivating forest crops.

snags: standing dead trees with a minimum diameter of 10 inches and a height of 10 feet.

Special Animals List: a list compiled by Fish and Game containing **threatened**, **endangered**, and unlisted, but **sensitive** or declining, vertebrate and invertebrate **taxa**; taxa on this list are included in the California Natural Diversity Database.

species at risk: candidate, **threatened**, or **endangered** species pursuant to state and federal Endangered Species Acts, and **species of special concern**.

Species of Special Concern (SSC): an administrative designation given to animals that were not **listed** under the federal Endangered Species Act or the California Endangered Species Act at the time of designation but are declining at a rate that could, and sometimes does, result in listing.

substrate: the base or material on which an organism lives; subsoil.

succession: the gradual transformation of one ecological community to another, either in response to an environmental change or induced by the organisms themselves.

successional stage: a particular state of ecological development.

tailwater: Irrigation runoff water from agriculture.

take: to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.

taxa: plural of **taxon**.

taxon: the name that is applied to a group in biological classification, for example, species, subspecies, variety, or evolutionarily significant unit (ESU). The plural is **taxa**.

threatened species: any species that is likely to become endangered within the foreseeable future throughout all or a significant portion of its range.

threatened: one of several special status listing designations of plant and animal **taxa**. Under the California and federal Endangered Species Acts, threatened refers to a **taxon** that is likely to become endangered in the foreseeable future. The word threatened is also commonly applied to non-listed taxa in danger of extinction.

TMDL: See Total Maximum Daily Load.

Total Maximum Daily Load (TMDL): a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards, as well as an estimation of the percentage originating from each pollution source. A TMDL is the sum of the allowable loads of a single pollutant from all contributing point and nonpoint sources. The calculation must include a margin of safety to ensure that the waterbody can be used for state-designated purposes. The calculation must also account for seasonal variation in water quality.

turbidity: reduced water clarity resulting from the presence of suspended matter.

umbrella species: a species whose conservation protects a wide range of co-existing species in the same habitat, which may be lesser-known and difficult to protect otherwise.

understory: the trees and other woody species growing under a relatively continuous cover of branches and foliage formed by the overstory trees.

uneven-aged: a silvicultural system in which individual trees originate at different times and result in a forest with trees of many ages and sizes.

upland: a general term referring to species, habitats, or vegetation types in nonflooded or non-saturated areas.

vernal pools: seasonal **wetlands** that form in depressions on the soil surface above a water-restricting layer of soil or rock. Plant and animal **taxa endemic** to vernal pools are those which can adapt to a unique cycle of flooding, temporary ponding, and drying.

vertebrate: an animal with an internal skeleton. Examples are birds, mammals, reptiles, amphibians, and fish.

viable: able to persist over time; self-sustaining.

watershed: defined here as a stream or river basin and the adjacent hills and peaks which “shed,” or drain, water into it.

wetland: a general term referring to the transitional zone between **aquatic** and **upland** areas. Some wetlands are flooded or saturated only during certain seasons of the year. **Vernal pools** are one example of a seasonal wetland.

wildfire: any fire occurring on undeveloped land; the term specifies a fire occurring on a wildland area that does not meet management objectives and thus requires a suppression response. Wildland fire protection agencies use this term generally to indicate a vegetation fire. Wildfire often replaces such terms as forest fire, brush fire, range fire, and grass fire.

wildlands: collective term for public or private lands largely undeveloped and in their natural state.

wildlife: all species of free-ranging animals, including but not limited to mammals, birds, fishes, reptiles, amphibians, and invertebrates.

Wildlife Area: designation given to certain lands owned or managed by the Department of Fish and Game as a way of regulating appropriate use. This designation is usually given to land with potential for multiple wildlife-dependent public uses such as waterfowl hunting, fishing, or wildlife viewing. Compare with **Ecological Reserve**.

woody debris: fallen dead wood or large branches. Woody debris is an important source of nutrients and habitat as well as a source of fuel for fire.

xeric: dry or desert-like.

zooplankton: minute, often microscopic, animal life that drift or swim in water bodies such as the ocean.